90-92-93 Metrobus
U Street-Garfield Line Study

Final Summary Report

March 2011

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1.0 Executive Summary

The Washington Metropolitan Area Transit Authority (WMATA), in partnership with the District Department of Transportation (DDOT), has studied ways of improving transit service along Metrobus Routes 90, 92 and 93 – collectively known as the U Street-Garfield (90s) Line.

The study was the latest in a series of Metrobus priority corridor evaluations in which WMATA and regional transportation agencies restructured some of the highest-ridership lines in the area. Transit service and operations improvements have previously been made to the 70s Line, 30s Line, 16th Street (S) Line, Q2 Line, 28 Line, and Benning Road-H Street (X) Line.

The 90s Line was selected for study because about 14,700 passengers use the line on an average weekday, one of the highest riderships in the Metrobus system. Like several other popular Metrobus lines, the 90s Line has been identified as having reliability problems.

The initial portion of the study began in March 2010 and included a public outreach process, featuring a rider survey and a series of public meetings. Input received from riders helped to form the conceptual options for study, which were evaluated over the course of several months. The options were refined and commented on by the public and DDOT, the result of which was the set of recommendations that are discussed in this final report.

The following is a summary of the recommendations and suggested timeline for implementation as they will be presented to the WMATA Board for approval in 2011:

Phase One (2011-2012)

Phase One would include operational improvements such as the increased enforcement of parking restrictions, route-specific training for bus drivers, improved safety and security measures, a recalibration of running times on underlying local 90s Line service, and additional dedicated supervisory staff for 90s Line service.

The most notable service addition in Phase One would be the new Metro Express Route 99, which would run limited-stop between the Anacostia and Dupont Circle Metro Stations.

Other changes in Phase One would include the initiation of physical enhancements along 8th Street NE/SE, improved bus stops and facilities, the possible relocation of local service bus stops, and better information for riders. DDOT would also begin studying future dedicated transit lanes along portions of U Street and Florida Avenue NE; traffic signal priority along portions of U Street, Florida Avenue NW/NE and at 13 intersections along 8th Street NE/SE; and improvements at the intersection of Martin Luther King, Jr. Avenue SE and Good Hope Road SE.

Phase Two (after 2012)

Phase Two would see the complete implementation of physical enhancements along 8th Street NE/SE and an increase in service for Metro Express Route 99.

Long-range improvements would include further service added to Metro Express Route 99 and the implementation of potential traffic-related improvements (pending additional analysis).

2.0 Introduction to the U Street-Garfield (90s) Line Study

The Washington Metropolitan Area Transit Authority (WMATA), in partnership with the District Department of Transportation (DDOT), has studied ways of improving transit service along Metrobus routes 90, 92 and 93 – collectively known as the U Street-Garfield Line, or the 90s Line. These existing routes are shown in **Figure 2-1**. This final report summary describes the development and evaluation of service improvement options for the Metrobus 90s Line as well as an overview of the public outreach efforts and the recommended improvements that emerged from the study process.

2.1 Project Purpose

The main purpose of the study was to conduct a comprehensive review of methods for improving the performance of transit service along the U Street-Garfield (90s) Line, and to develop an improvement strategy that would include service, operations, and customer information enhancements. Challenges facing the 90s Line included:

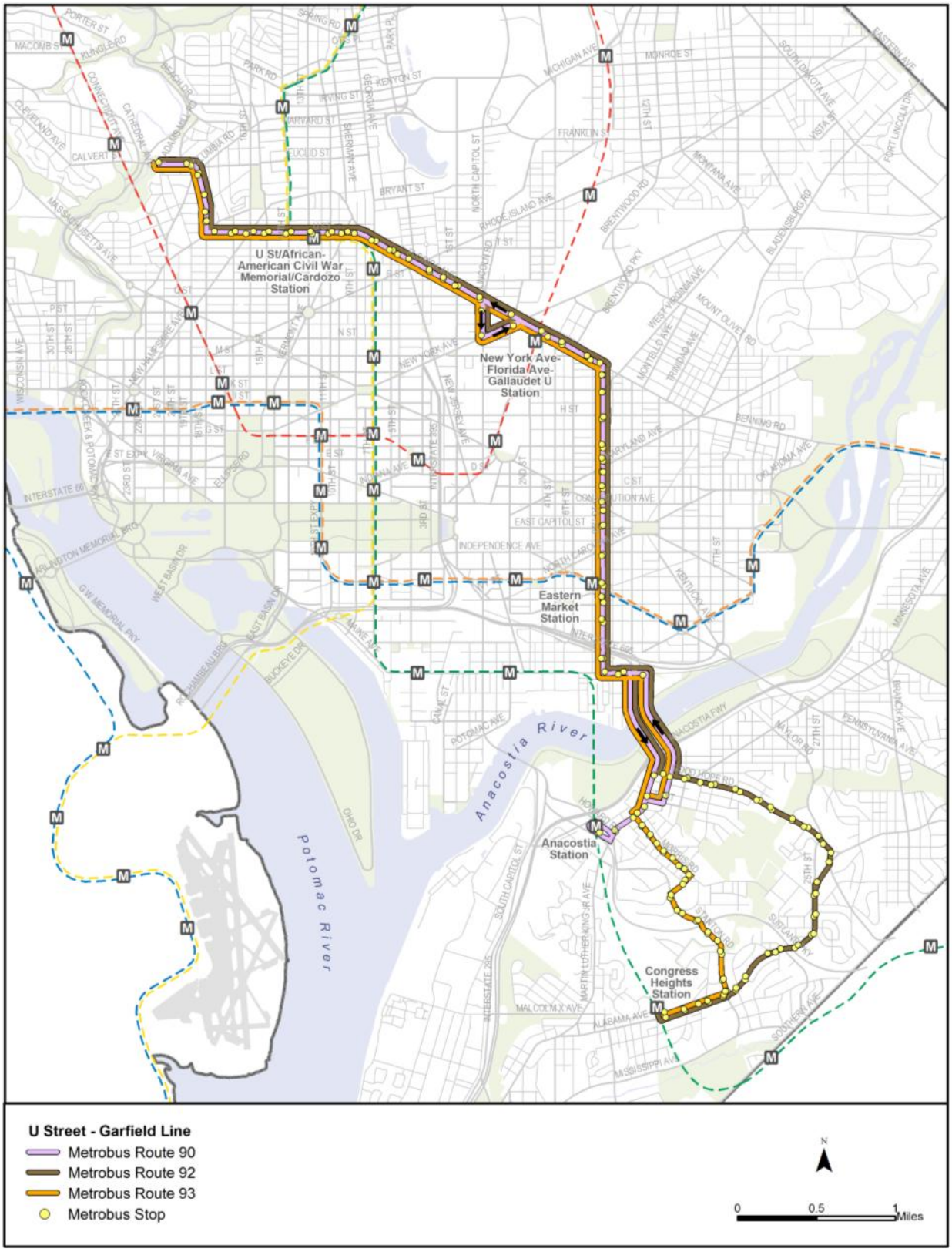
- Improving the customer experience
- Updating services and operating plans to sustain good performance
- Improving reliability, travel times, and safety/security
- Reducing passenger crowding
- Establishing a strategy for implementing recommendations
- Planning for future demand and new services to accommodate District initiatives

2.2 Planning Process

The U Street-Garfield (90s) Line study included a coordinated planning effort to link implementation of the proposed service options with the development of community support. This work consisted of:

- Conducting a rider survey to identify deficiencies to be addressed by the study.
- Holding nine public meetings to develop public and agency support for enhancing 90s Line services.
- Reviewing existing 90s Line services, operations, and customer information.
- Recommending an integrated set of service, operations, and customer information strategies to respond to consumer needs, minimize costs, and enhance effectiveness and performance of the 90s Line.
- Identifying related enhancements, budgets, and funding needs for:
  - Service and supervision
  - Vehicle types and uses
  - Bus stop locations
  - Customer information
  - Physical improvements to roadways and intersections
  - Traffic management strategies
- Developing a coordinated implementation timetable and strategy with DDOT.
- Requesting funding and WMATA Compact-required approvals.
- Implementing the service and enhancements in coordinated phases to meet project and District transportation deadlines and requirements.

Figure 2-1: Existing Metrobus Routes 90, 92, and 93



3.0 Public Outreach and Input

Public outreach was a significant part of the U Street-Garfield (90s) Line study process. Opportunities for public participation included a rider survey, three series of public meetings, a project website, and other activities. In addition to obtaining feedback from the public, the study team met at the Northern Division garage with bus operators on the 90s Line at the outset of the study to hear their views on problems with the line and collect their ideas on potential ways to solve them.

3.1 Rider Survey

The purpose of this informal survey was to obtain feedback from riders about problems with the line, and suggestions on how to improve service. The 19-question survey was administered on Wednesday, April 14, 2010 between 6 am and 10 pm. The surveys were bilingual—English on one side, Spanish on the other. In all, approximately 5,000 surveys were distributed at high-ridership stops along the 90, 92, and 93 bus lines. The on-line version of the survey was available for two months after April 15 on the project website.

A total of 692 completed surveys were received: of these, 675 were paper surveys while the other 17 were completed on-line. The following is a summary of key issues from the survey:

1) **Schedule Adherence** - The frequency with which buses arrive is a major issue for 90s Line riders. Bus bunching and delays were reported to be major problems. Even when respondents generally have an overall favorable view of service along the line, most believe that the schedules are not accurate.
2) **Crowding** - The 90s Line sometimes suffers from overcrowding. Although 80 percent of respondents were able to find a seat on the day of the survey, 18 percent said that buses are generally too crowded. The study team observed that buses were often at capacity or over capacity during peak periods.
3) **Safety and Security** - Sixty percent of respondents said they are “very” or “somewhat” concerned about safety and security on 90s Line buses and at 90s Line bus stops. Many reported seeing misbehaving youths and homeless persons on buses.
4) **Operators** - Most respondents rated the 90s Line bus operators highly, although there were some complaints about unprofessional behavior and not enforcing bus rules.
5) **Conditions** - The condition, comfort, and cleanliness of 90s Line buses was rated average or above average by survey respondents; however, many said that the quality of bus stops and shelters was poor.

More than half of respondents indicated that they transfer to or from the 90s Line. Answers varied widely, as many major bus lines connect with the 90s Line, but the X Line, the 30s Line, and the A Line were cited as the most common bus lines to transfer to or from.

A large majority – 88 percent – of respondents said they would use new transit services on the 90s Line corridor, particularly a limited-stop route, if they were available.

3.2 First Series of Public Meetings: Problem Identification

Three public meetings were conducted for the first round of public input for the U Street-Garfield (90s) Line study in May 2010. The first meeting in this phase of the study was held on Tuesday, May 18, at Douglass Community Center in Southeast DC. The second meeting took place the next night at J.O. Wilson Elementary in Northeast DC. And the third in the initial series was on Thursday, May 20, at the Reeves Center in Northwest DC. The first two meetings were held from 6:30 pm to 8:30 pm, while the third was a daytime meeting from 12 pm to 2 pm. The sites

were selected for their proximity to the corridor and convenience to residents on both sides of the Anacostia River.

The purpose of the first round of public meetings was three-fold: 1) to engage 90s Line riders in dialogue about challenges facing the routes; 2) to hear rider concerns, identify issues, and set priorities for the study; and 3) reveal the preliminary results of the rider survey. The study team received a better understanding of the problems that were of greatest importance to riders and used this information in developing service improvement recommendations.

Six members of the public and media attended the first series of public meetings. The following is a list of issues that were voiced by participants, and potential solutions to address the issues:

- **Buses become very crowded** – 90s Line buses are often crowded and are usually standing room only during peak periods.
- **Newer, quieter buses** – Participants said they would like to see newer, quieter buses on the 90s Line. Current buses can be very dirty sometimes. Newer buses do not necessarily need to be articulated.
- **Buses are often behind schedule** – Traffic delays, illegal parking, and slow passenger boarding and alighting often make the buses run behind schedule. Waits can be very long and buses often arrive in bunches.
- **Greater frequency** – Participants said they would like to see greater frequencies with the addition of extra local buses and limited-stop service at all times of the day.
- **Security** – An increased security presence is needed along the 90s Line. Security is more of an issue at bus stops, but rowdy kids and homeless people are also an issue.
- **Shelters and stops –** Better maintenance of stops and shelters is needed. Stops and shelters should be better lit. Larger or additional shelters are needed along the route.
- **Communication –** Communication between passengers and Metro should be improved: NextBus information is often inaccurate or not working; it is difficult to report driver safety errors; and timetables are difficult for older riders to read.
- **Extend western end of line –** Riders asked if it was possible to extend the western end of the 90s Line to Woodley Park Metro, to provide better access to Metro and service to residents who live west of the Duke Ellington Bridge.

Potential Solutions

- Almost all of the participants liked the idea of a limited-stop or express bus service.
- Participants stressed the need for better supervision to monitor service along the line, maintain headway separation, and ensure that bus operators give their best effort.
- There were requests for better information for riders, including updated schedules and reliable NextBus information.
- Participants stated the need for cameras and undercover officers who would provide better security for 90s Line riders.

3.3 Second Series of Public Meeting: Improvement Concepts

The second series of public meetings were held to present improvement concepts to the public and receive feedback. The first of three meetings was held on Tuesday, June 29, at Savoy Elementary School in Southeast DC. The second meeting took place the following night at Sherwood Recreation Center in Northeast DC. And the last meeting of the series took place on Thursday, July 1, at Marie Reed Center in Northwest DC. Seven participants came to this set of meetings, each of which was held from 6:30 pm to 8:30 pm.

The following is a summary of the comments received at the second series of public meetings:

- **Mixed feelings about overlapping routes** – Participants liked the idea of 90s Line buses being more frequent and reliable, but worried that those on the ends of the routes would receive much less service.
- **Lack of support for the Columbia Road/Florida Ave. alignment in Adams Morgan** – There was some concern about the extra blocks people would have to walk, especially the elderly.
- **Need an alternate route from the 11th Street Bridge to Good Hope Road** – Opinions ranged from extending the green light time for left turns to avoiding the intersection and using local streets to access Good Hope Road.
- **Enthusiasm for a limited-stop service** – Participants have seen it work elsewhere (the 79, S9, and 39) and would like it for the 90s Line; but they would prefer it to run all day, not just peak periods. Views were mixed on the alignment; they understood the need for less traffic and a wide street, but were unsure of the impact of moving the route off 8th Street and onto either 11th or 14th/15th.
- **Ambivalence about elimination of the 93 route –** Some participants recognized the need to divert resources, but others said the 93 is needed for those who work odd hours.
- **Support for trippers** – Participants liked any idea that would add to frequency of service.
- **Need for operational improvements** – Participants approved of larger buses and better supervision and bus driver training. There was a re-stated need for greater security, police presence, and the need for bus drivers to enforce Metrobus rules.
- **Physical and facility improvements –** There was no opposition to signal priority or re-timing, dedicated transit lanes, intersection improvements, or enforcement of parking restrictions. There was support for enhancements to bus stops, schedules, and maps.

3.4 Third Series of Public Meetings: Draft Recommendations

At the third and final set of public meetings for this study, the project team presented draft recommendations that were identified based on analyses of existing transit service deficiencies and feedback from the previous public meetings. The first was held on Tuesday, September 21, 2010, at Sherwood Recreation Center at 10th and G Streets NE. The second meeting took place the following night at the DC Housing Finance Agency at 815 Florida Avenue NW. The last meeting took place on Thursday, September 23, at Allen Chapel AME Church, 2498 Alabama Avenue SE. All meetings were held from 6:30 pm to 8:30 pm. A total of 26 participants attended the three meetings in this series.

With a few exceptions, participants at the meetings were generally in favor of the recommended improvements. The following summarizes the comments received by meeting attendees:

- **Support for schedule recalibration** – There was no opposition to the addition of extra buses; in general, riders supported added service and anything that would promote better schedule adherence.
- **Enthusiasm for the Metro Express Route 99 limited-stop service** – Participants generally liked the idea of a limited-stop service, although some asked that the proposed hours be extended, and there were a few questions about the number and location of stops. Dupont Circle was seen as a good western terminal, while several riders hoped for the eastern end to terminate at Congress Heights.

- **Acceptance of no western extension of line** – A few riders had requested early in the input process that the 90s Line be extended west to Woodley Park Metro. Metro determined that, because of congestion in that area and the lack of space for buses to turn around, the western terminal of the 90s Line would remain at Duke Ellington Bridge. This explanation seemed to satisfy participants, especially since the western terminal of the proposed Metro Express Route 99 would offer an additional connection to Metro at Dupont Circle.
- **General support for traffic-related improvements** – Participants had little to say about the idea of dedicated transit lanes other than that they should be enforced, and there was no opposition to the idea of signal priority for buses or increased enforcement of parking restrictions. The groups generally thought that the strategy for Good Hope Road and Martin Luther King Jr. Avenue was good for moving traffic through the intersection more easily.
- **Mixed reaction to 8th Street enhancements** – Many participants agreed with the recommendations for 8th Street, but there was some resistance. A few questioned the moving of stops to the far side of intersections and disliked the idea of eliminating parking spaces, saying that it would negatively affect small businesses in the corridor. Others identified the heavy bicycle and pedestrian traffic on 8th Street as reason to preserve the traffic-calming effect of all-way stops, in spite of the travel time savings the measure would produce for the 90s Line. There was also some debate over where stops should be located around 8th and H Streets NE and around Eastern Market.
- **Support for operational improvements** – There was unanimous support for dedicated supervision and enhanced, line-specific bus driver training. Participants reiterated their desire for greater police presence, improved security on buses and at bus stops, and the need for bus drivers to enforce (and adhere to) Metrobus rules. In contrast to the 90s Line rider survey, in which there was overwhelming approval of bus driver performance, many participants at these public meetings indicated that they were unhappy with the attitude and commitment to quality service of 90s Line operators.
- **Support for physical and facility improvements** – Participants supported the recommendations for enhancements to bus stops, including updated schedules and maps with larger font sizes, more lighting, special branding of the new limited-stop service, NextBus signs at select stops, and more reliable NextBus information. Some riders wondered why these changes can't take place more quickly.
- **Larger issues** – More than in any prior set of public meetings, participants drew comparisons between Metrobus and the Circulator, which was often perceived as being a superior system. Several riders asked why Metro can't do more to emulate the Circulator in terms of service, vehicles, routes, and fares. There was also some push-back from participants about the recent Metro fare increases; several riders commented about the disparity between paying more and what they see as a continued lack of satisfactory Metrobus service.

3.5 Outreach Activities

To inform 90s Line riders and community stakeholders about the study and recommendations, the following outreach activities were conducted for each set of public meetings.

- A press release was sent out via WMATA's public relations channels.
- 11" x 17" posters announcing the meetings were placed on 90s Line buses.
- A flier announcing the meetings was sent to a mailing list of between 350 and 450 people, including rider survey respondents, civic organizations, elected officials, and businesses.
- Two e-mail broadcasts were sent to about 250 to 270 e-mail addresses on the project mailing list; one was sent two weeks before the first meeting, and another was sent the day before.
- Updates were made to WMATA's own website and the project website, www.metrobus-studies.com, which features an overview of the study, maps, links, contacts, and publications and reports related to the study.
- An announcement was also made on the project's Facebook page and Twitter feed.
- Several calls were answered on the project hotline. The number for the first part of the study was 703-682-5060. The new number is 703-340-3105.

The third series of public meetings was promoted through the above means, plus the following:

- 2,000 meeting announcements were printed on "door hanger" cards (4.25" x 11"; English on one side, Spanish on the other) and hung from the overhead rails of 90s Line buses. The door hangers were placed on buses at Duke Ellington Bridge and Anacostia Metro on several mornings the week before and the day before the first public meeting in this series.
- 1,800 meeting announcements were printed on cards (4.25" x 5"; English on one side, Spanish on the other) and handed to riders as they waited for buses at the following 90s Line stops: 14th & U Streets NW (southbound, PM peak), Florida Avenue & 7th Street NW (southbound, PM peak), 8th & H NE (northbound and southbound, midday and PM peak), and Anacostia Metro (northbound, PM peak). The handing out of announcement cards was done over a several day span the week before and the day before the first public meeting in this series.

It is believed that these two additional outreach activities were responsible, in large part, for more than tripling attendance at the final series of public meetings.

4.0 Recommendations

This section describes the guiding principles of and recommended improvements for the Metrobus U Street-Garfield (90s) Line.

4.1 Guiding Principles

The 90s Line serves a community of residential and commercial neighborhoods that value diversity, inclusiveness, and connectivity with each other, and which:

- Is experiencing the early stages of economic improvements, with expectations for continued growth.
- Includes several important intermodal connections, including five Metro stations: U Street/African American Civil War Memorial/Cardozo, New York Avenue/Florida Avenue/Gallaudet University, Eastern Market, Anacostia, and Congress Heights.
- Has a long tradition of transit service, stops, and connections, including a mid-1900s streetcar alignment from the Calvert Street Bridge to 18th Street, U Street, Florida Avenue, 8th Street, and the Navy Yard.
- Represents multiple travel markets inclusive of major activity centers, mixed use corridors, and residential neighborhoods.
- Incorporates major District initiatives to accommodate future growth and enhance quality of life including streetscape improvements and future streetcar service along portions of U Street NW, 8th Street NE/SE, and Martin Luther King Jr. Avenue SE.
- Relies on bus and rail transit as a major component of their mobility.

Based on the results of the review of the existing services, bus rider survey, and public comments, the following overarching principles were identified to guide the development of recommended improvements.

Principles of Service for the 90s Line:

- There should be a basic level of service offered in the corridor where transit service is currently provided.
- Retain a high-frequency “trunk” service along U Street NW, Florida Avenue NW/NE, and 8th Street NE/SE.
- New service types should be in addition to retaining some all-stops local service.
- Match service type, frequency, and capacity to demand based on route segment; trip purposes; time of day; travel direction; day of week; and origins and destinations to preserve effectiveness and efficiency.

Principles of Operations for the 90s Line:

- Active service management and supervision is essential to the success of the service.
- Technology should be used to improve the ability to monitor and direct buses.
- Increased enforcement of parking regulations—as a coordinated effort of Metrobus street supervisors and bus operators, Metro Transit Police, and the District’s Department of Public Works—is essential to improving running times and bus stop access.
- Optimize route and schedule performance of the trunk portion of the 90s Line.
- Commit lanes of traffic and street operations to serve the needs of buses in congested areas.
- Communication is important among bus operators, supervisors, and passengers when there are delays, detours, or when buses are being held to avoid bunching.
- Incorporate the access needs of seniors and the disabled in determining locations and number of bus stops.

4.2 Recommended Service Improvements

Service improvements to the U Street-Garfield (90s) Line would include several changes from the existing service. Some of the service improvements would be implemented in successive phases. The service recommendations include the following elements:

4.2.1 Recalibrate Running Times on Existing Metrobus 90s Line

As a foundation for all other recommendations, the running times (by both time of day and direction of service) of Metrobus Routes 90, 92 and 93 needed to be determined accurately. The study team conducted field research to time the runs of 90s Line buses so that service proposals could be developed using travel times that more accurately reflect vehicle needs and operating costs. Based on this research, it is recommended that additional service be included on the 90s Line to maintain more reliable existing headways.

4.2.2 New Metro Express Route 99 Limited-Stop Service

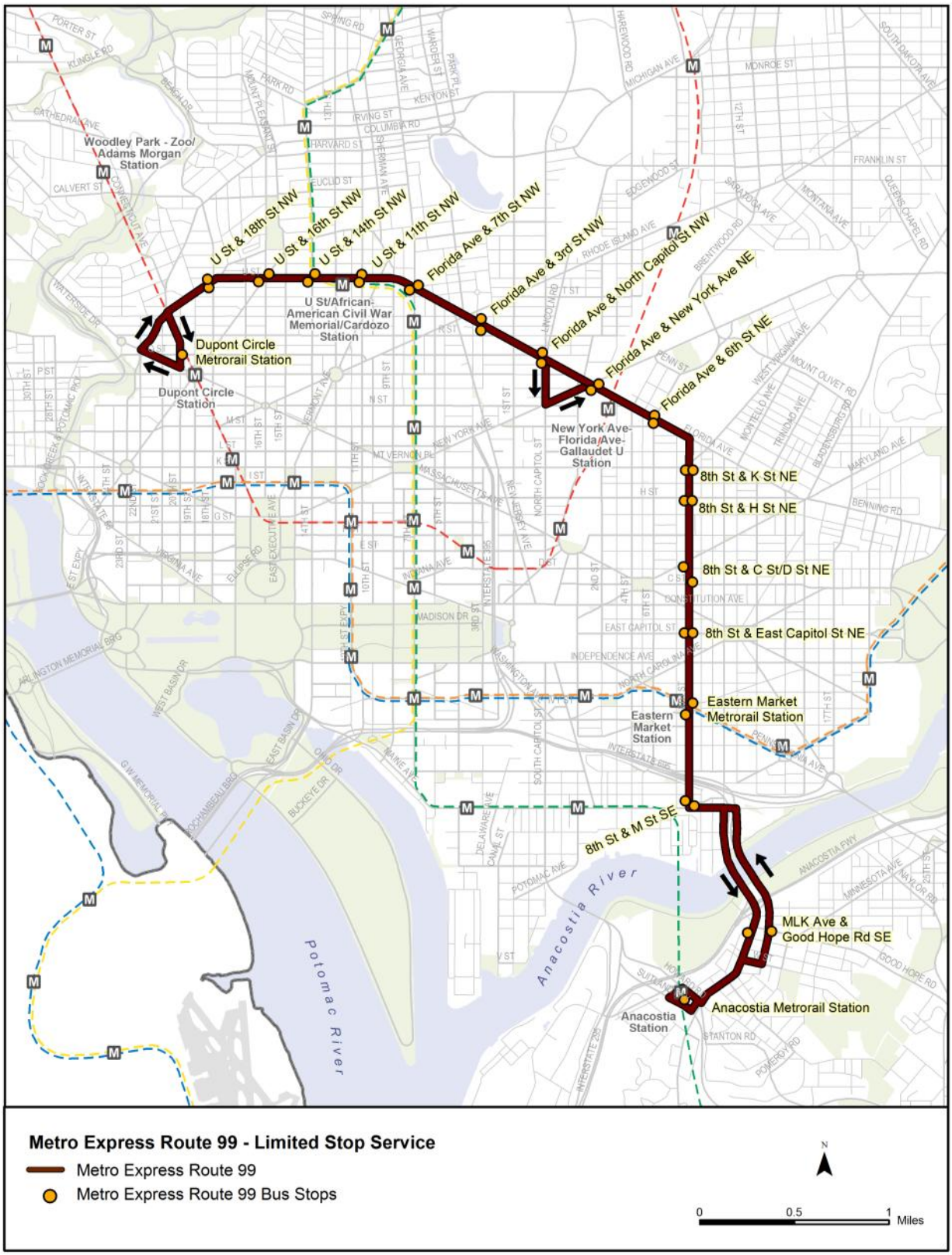
Between 2007 and 2010, Metrobus has had success introducing "Metro Express" service to the District's bus transit network. In some cases, as with the 79 route on Georgia Avenue and 7th Street NW and the S9 along 16th Street NW, the new service was branded and the buses were painted a color unique to the express service. With the 37 and 39 routes, the limited-stop services initially used regular buses, but are now branded with blue-and-silver express buses. In all cases, Metro has received mostly favorable feedback from riders about the efficiency and time savings of the services. To continue with this trend, Metro explored a limited-stop service for the 90s Line between Northwest and Southeast DC.

Anacostia Metro was chosen as the southern terminal over Congress Heights Metro, as Anacostia Metro offered better connection opportunities with other bus lines in Southeast and more potential riders. A northern terminal at Woodley Park Metro was ruled out due to limited turn-around options for vehicles, and because of a stated desire among participants at public meetings to connect U Street by bus to Dupont Circle. Thus, Dupont Circle was selected as the northern terminal for the new Metro Express 99 route.

After analyzing several alignment alternatives—including I-395, South Capitol Street, 14th and 15th Street NE/SE, and 1st and 2nd Street NE/SE—it was determined that 8th Street NE/SE and Florida Avenue NE/NW would be the best alignment for the new Metro Express Route 99 service **(Figure 4-1)**. 8th Street was competitive with the travel times of the other options, and because 8th Street is already served by Metrobus, it eliminated the potential for community concerns about Metrobuses operating on a previously unserved street. The preference for 8th Street was shared by participants in the public meetings, the great majority of whom preferred that a limited-stop service be aligned with existing 90s Line ridership. Operation of the limited-stop service along 8th Street NE/SE would be optimized by physical enhancements to 8th Street such as signal priority and intersection improvements.

The Metro Express Route 99 would serve major bus stops along the 90s Line and connect with five Metrorail stations. Initially, in Phase 1 of implementation, the 99 route would operate bi-directionally with 15-minute headways during peak periods only (approximately 6 am to 9 am and 3:30 pm to 6:30 pm). Phase 2 would see the 99 service operate bi-directionally every 10 minutes during the two 3-hour weekday peak periods. This would be paired with some additional reduction in Metrobus Route 90 peak period service. And in later, long-term phases of implementation, the Metro Express Route 99 would include weekday midday service, weekday evening service, and weekend service.

Figure 4-1 Recommended Metro Express Route 99 Limited-Stop Service



4.3 Recommended Operational Improvements

The operations related recommendations include the following elements:

4.3.1 Physical Enhancements on 8th Street NE/SE

For the 90s Line service—especially the Metro Express 99 route—to run more smoothly and with fewer delays, a set of improvements are recommended for 8th Street NE/SE, including signal priority and the changing of several intersections from all-way stops to two-way stops. These physical enhancements are discussed in greater detail in Section 4.7.2 of this report.

4.3.2 Dedicated Supervision

Two full-time equivalent (FTE) supervisors, at an annual cost of $80,000 each, would be added to the 90s Line to manage the line's operation, communicate with bus operators, help ensure adequate headway separation, and anticipate and solve problems. There would be two FTE supervisors dedicated to the U Street-Garfield Line; one near the Navy Yard for northbound service and one near Gallaudet University for southbound service.

4.3.3 Supervisor Playbook and Training

A Supervisor Playbook and training should address the issues that may occur while the bus is in operation. The playbook and training would help line supervisors address issues such as bus bunching, blocked lines due to severe traffic congestion or planned events, extreme crowding, and blocked bus stops. Training for situational responses would inform line supervisors of strategies to mitigate these types of issues.

4.3.4 Line-Specific Bus Operator Training

Bus drivers have specifically mentioned a desire for line-specific training, allowing them to become more familiar with the route as well as connecting bus and rail services and major destinations served by all routes in the 90s Line corridor. This training should also address the recommended changes to the route, so that operators are better prepared to respond to questions from riders. Such training should include:

- Information about major transit trip destinations along the route;
- Transfer points for connecting bus routes and rail lines and major destinations served by those routes;
- Recommended route structure for the 90s Line, including terminal points, headways, days of service, and span of service; and
- Methods for operators to provide improved customer service.

Such training would encourage drivers to be better-informed and able to answer riders' questions about how best to reach their destinations, as well as clear, up-to-date information about changes to 90s Line. They may also help promote destinations and attractions located along the line.

4.4 Recommended Facilities Improvements

4.4.1 Branding of New Services

The proposed limited-stop Route 99 service should be consistently branded with other Metro Express services, including the vehicle paint scheme and flags and signs at bus stops to make the public aware of the new services. Metro Express branding could also be incorporated into bus shelter designs, with the consent of DDOT.

4.4.2 Improved Bus Stops and Facilities

Improvements to stops and facilities, such as new shelters with benches and lighting, are already underway. New shelters will be installed at most stops that currently have a shelter. During the phased implementation of the 90s Line recommendations, project staff will work with DDOT staff to expedite the replacement of shelters along the corridor.

Time spent at the bus stop constitutes the first and last experience each rider has with the transit service each time they ride the bus. This means that the customer experience at the bus stop is critical. The following recommendations cover bus stops and related facilities:

- **Location of Bus Stops** - Bus stops should be located in clear, visible, open spaces, preferably in places with a high amount of pedestrian traffic and ample sidewalk space for waiting passengers. Clear markings are important so that passengers know where they can board the bus, and visibility is important for safety reasons. When bus stops are moved or consolidated, extra consideration should be taken to ensure that they are placed in appropriate places.
- **Improved Shelters** - Bus stops should be well lit and clearly marked with a sign indicating the system name and logo, routes stopping there, and a number to call for information. Schedule and fare information should be posted at each bus stop, and maps should be provided at all bus stops with shelters. Shelters, benches, and trash receptacles should be provided at all stops for the recommended Metro Express Route 99, as well as at busier local stops along the line. Emergency call boxes are also recommended at stops along the route, particularly in high-crime areas. Additional amenities may include newspaper boxes, machines to purchase and/or refill SmarTrip cards, and improved lighting. With the permission of DDOT, branding for Metro Express 99 Service could be incorporated into the shelter design at bus stops.

  Currently the DC Shelter Replacement Program, led by DDOT and paid for by Clear Channel in exchange for advertising rights, is in the process of replacing all 700 bus shelters within the District of Columbia. This is underway in order to enhance the customer experience while waiting for buses and to provide weather protection and improved comfort and convenience. The new shelters are constructed with aluminum and glass and include weather protection, enhanced lighting, and advertising space. Updated maps and schedules should be displayed in every bus shelter, and it is recommended that NextBus arrival displays be installed as well, particularly at Metro Express Route 99 stops. Shelters located at high-volume stops and major transfer locations should also include maps and information about connecting services.
- **Missing or Damaged Stop Elements** - When stop elements are missing or damaged, passengers often feel that the transit provider is either negligent or does not care about the customer. Missing or damaged customer information, such as signs and posted maps and schedules should be replaced immediately, as they are not expensive to replace, but are heavily relied upon by riders. Damaged shelters, benches, and trash receptacles, should be fixed or replaced as soon as possible so as not to inconvenience passengers or give a poor impression of the service.

4.4.3 Consolidation and Relocation of Bus Stops

Another element for improving the operation of the 90s Line is to remove unnecessary bus stops along the line to help in reducing travel times and improving reliability. A plan for consolidating and relocating some of the 90s Line bus stops along 8th Street NE/SE was

completed as part of the study. The plans for stops along this portion of the route are shown in Appendix A of this document.

4.5 Recommended Customer Information Improvements

Riders of the 90s Line and stakeholders in the community have stressed the need for improved customer information. Enhanced customer information includes updated and improved schedules at stops and, eventually, real-time next-bus arrival information at stops.

Providing accurate, up-to-date, accessible information regarding transit service is critical to maintaining ridership and customer satisfaction. Ensuring that current and potential riders have access to route and schedule information means that transit riders are better able to make informed choices about how to best reach their destinations, likely travel times, and when to expect vehicles to arrive at their stops.

Route and schedule information should be provided at bus stops, bus and rail stations, on-board vehicles, by telephone, on the Internet, on real time bus arrival displays, and in messages, posters, and announcements. This section further elaborates on information that can and/or should be provided in each of these locations.

4.5.1 Updated Schedules and Maps

Up-to-date, accurate schedules should be posted for each Metrobus line serving a bus stop, ensuring that any new services are included. Schedules should be easy to read and visible, with key information high-lighted or bolded. Of the 116 stops on the 90s Line with information cases, 48 are damaged; these cases should be promptly replaced. Proper signage and information ensures that passengers and potential passengers know where stops are, what routes serve each stop, and when the bus is scheduled to depart. Providing schedule information at each stop makes riding the bus easier for passengers and encourages more people to do so; however, illegible or out-of-date schedules can cause confusion among passengers and promote dissatisfaction with the bus service.

Since not all riders would immediately be familiar with service changes along the line, flags should be updated to show all routes serving each stop and new, branded flags added at Metro Express 99 stops. Thirty-four flag sign poles will need to be repaired or replaced. Maps should also be displayed at each bus shelter, and should highlight all routes serving the 90s Line as well as all connecting routes.

In addition, take-home copies of schedules and maps should be provided whenever possible and should be maintained with up-to-date schedules for all routes serving the area, system maps, SmarTrip Card information, and schedules for popular connecting routes.

4.5.2 Customer Information On-Board Buses

Route and schedule information should be provided on buses for passengers. This information should be in print form so that passengers not using major Metrorail/bus stations/stops have access to hard copies of schedules. In order for schedules to be consistently available on board, operators should ensure that the appropriate schedules are available and stocked for the entire block before leaving the garage.

Additionally, all stops should be announced during all revenue trips. If electronic notifications are not available, operators should announce stops clearly so that all passengers can hear if their stop is coming up. Announcing each stop would avoid inconveniencing passengers who are unsure when to signal the driver that they would like to alight.

4.5.3 NextBus Information

NextBus displays at stops provide real-time information regarding actual departure times for the next bus along a line. Such displays are popular with passengers, as they specify how long one will have to wait at a stop, reducing uncertainty and confusion when a vehicle does not arrive on schedule. Metro currently provides NextBus information on the internet for passengers, and a customer information telephone number is displayed on every bus stop sign. By accessing the internet or calling the displayed number, passengers can find out about route and schedule information as well as delays or service interruptions. NextBus displays are currently available in the bus bays at Anacostia Metro Station; however, bus arrival information should be provided at other high-volume bus stops along the 90s Line, so that passengers without cell phone or internet access will also know when their bus is expected to arrive.

4.5.4 Marketing the New Services

A multimedia marketing effort to inform the public about the improvements is also recommended. This should include the development and distribution of information and materials that:

- Describe changes to the existing 90s Line services
- Describe new services, such as Metro Express Route 99
- Advertise potential benefits for the typical rider, and
- Provide details on how to get more information.

This campaign would coordinate with potential project partners, such as the DC Business Improvement Districts, located along the route. The campaign would allow for regular bus riders to be fully informed about upcoming changes to their bus services, such as new routes and changes in service hours and schedules, and how these changes would potentially improve the overall customer experience. Additionally, the campaign would encourage those who either do not regularly use transit or who previously used transit to try the new, improved system.

4.6 Safety and Security

Throughout the 90s Line study process, riders repeated the need for safer and more secure buses and bus stops along the line. The following strategies enhance safety and security at bus stops and on vehicles in order to maintain a safe, secure environment for passengers.

4.6.1 Safety and Security at Bus Stops

As bus stops and shelters are improved and replaced, special attention should go to ensuring that they are well lit and visible in order to promote a more secure environment. Future bus stop consolidation should consider maximizing the visibility of stops and focus on areas with higher levels of pedestrian activity. Additionally, the Metro Transit Police Department (MTPD) maintains a file on crime “hot spots” for locations throughout the Metrobus network. During the implementation process, Metro staff will coordinate with MTPD to confirm bus stops along the 90s Line that have higher crime rates. MTPD will be asked to provide a greater police presence at those stops and to monitor them on a consistent basis.

4.6.2 Safety and Security on Buses

Several measures to improve safety and security while on the bus are recommended including the following:

- **Education Campaign and Greater Police Presence** - Police patrols should include uniformed and undercover officers randomly patrolling buses, particularly during early

morning, late evening, and nighttime hours. Public service announcements should advertise the increased presence of undercover officers on buses. Riders are encouraged to call the MTPD on a special number, 202-962-2118, to report disorderly conduct of other riders.

- **Surveillance Cameras** - Cameras should be installed on buses and monitored by the MTPD whenever feasible.
- **Enhanced Bus Operator Training** - Added training for bus drivers should be conducted so that operators would be better prepared to enforce rules and address potential conflicts before they become problems. Safety training would include making bus drivers more aware of bicyclists and pedestrians.

4.7 Traffic-Related Improvements

To overcome delays caused by congestion, there are several strategies that could be implemented in the 90s Line corridor. These improvements would provide a means for buses to travel more quickly on congested roadway segments and improve travel times and schedule adherence and reduce bus bunching. The following recommendations would be implemented jointly by WMATA and DDOT as funding becomes available and after additional analysis and public outreach is conducted.

4.7.1 Dedicated Transit Lanes

An on-site review of transit lanes in the 90s Line corridor revealed that sufficient width, on-street parking, and other conditions make it potentially feasible for dedicated bus lanes to exist in two sections of the 90s Line. One is along U Street between 18th Street NW and 9th Street NW, and the other is along Florida Avenue between New York Avenue and 8th Street NE **(Figure 4-2)**. By reserving lanes for transit vehicles along these two sections, operation of the 90s Line would become less susceptible to delays caused by congestion and traffic incidents. Dedicated transit lanes are part of the long-term considerations for this project.

4.7.2 Intersection Improvements

During the 90s Line study, interviews with Metrobus operators and comments from the public confirmed problems with intersections at certain points along the 90s Line corridor. Poor vehicle progression was reported, in particular, at intersections along 8th Street NE/SE and at the intersection of Martin Luther King, Jr. Avenue and Good Hope Road SE. Following a technical review of these intersections, it is recommended that several stops be moved to the far side of the intersection along 8th Street and that bus bulb-outs be constructed at a few strategic locations. In addition, bus vehicles would be able to move through 8th Street with fewer delays with the changing of six intersections from all-way stops to two-way stops **(Figure 4-3)**. In Southeast DC, a new configuration is recommended for the intersection of MLK Jr. Avenue and Good Hope Road SE that would enable 90s Line vehicles to negotiate the turn without having to wait through multiple cycles **(Figure 4-4)**. Changes at MLK Jr. Avenue and Good Hope Road could be implemented in conjunction with DDOT's 11th Street Bridge project, but such a combining of projects may need additional operational analysis.

4.7.3 Signal Priority

The study team observed a slow progression of bus vehicles at several points along the corridor, especially along 8th Street NE/SE. The deployment of signal priority technology would be particularly helpful in keeping buses moving and on schedule through this segment. Transit signal priority is recommended for 12 currently signalized intersections along 8th Street NE/SE **(Figure 4-3)**. Because H Street NE is also a busy transit corridor and a planned alignment for

future streetcar service, and because transit vehicles on H Street would also have signal priority, it is assumed that future signal priority at the intersection of 8th and H Streets would favor H Street.

Figure 4-2 Recommended Dedicated Transit Lanes

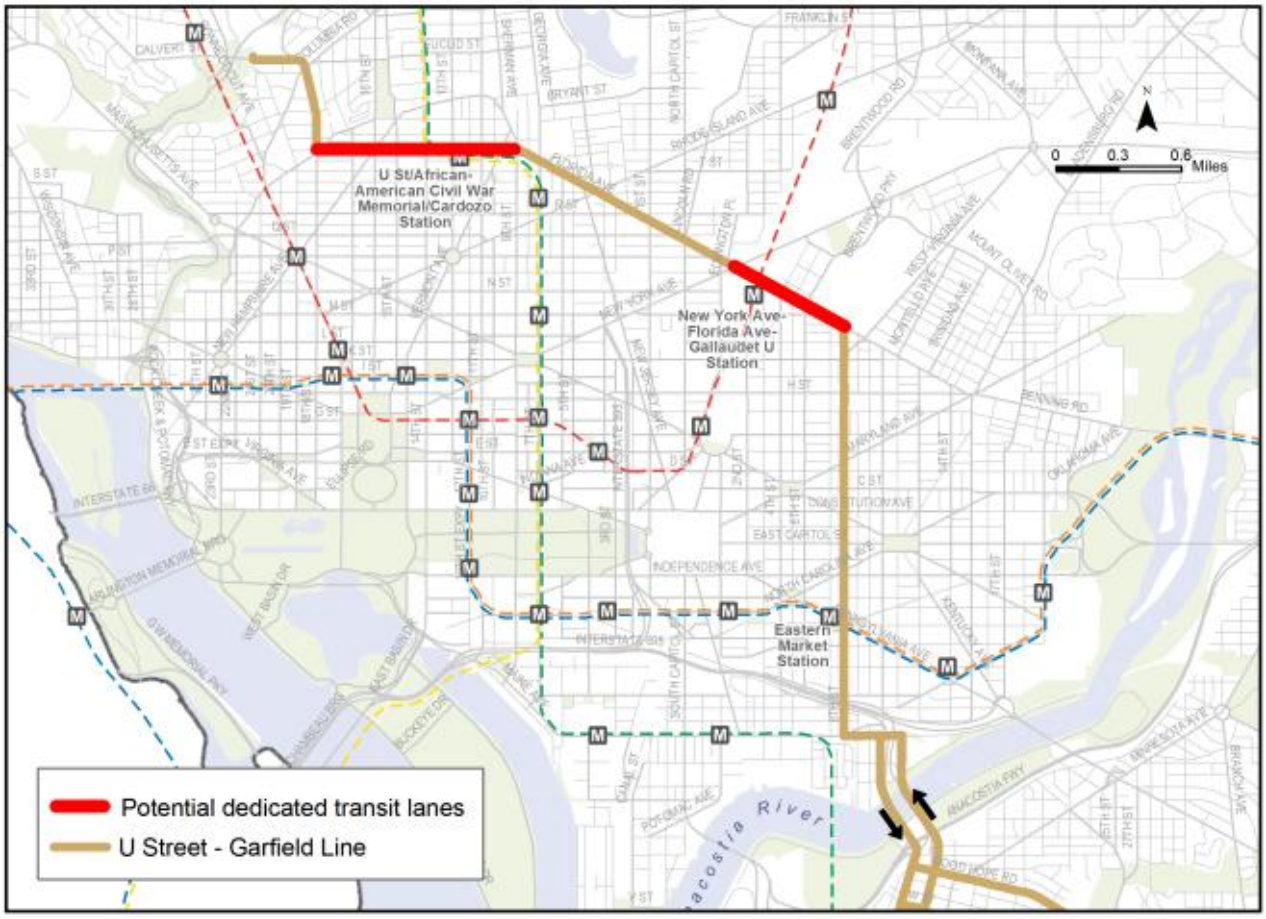


Figure 4-3 Recommended Intersection and Signal Priority for 8th Street NE/SE

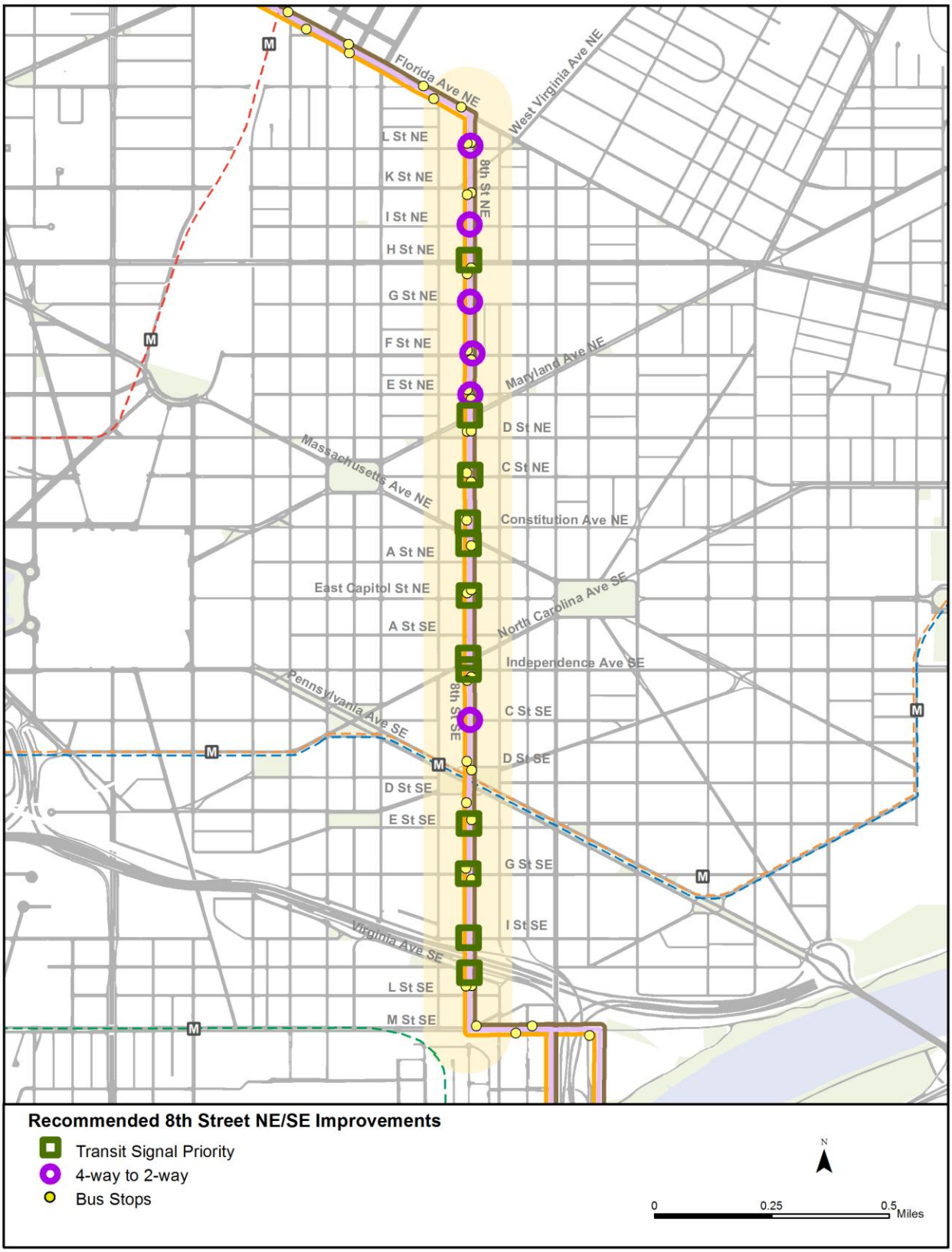
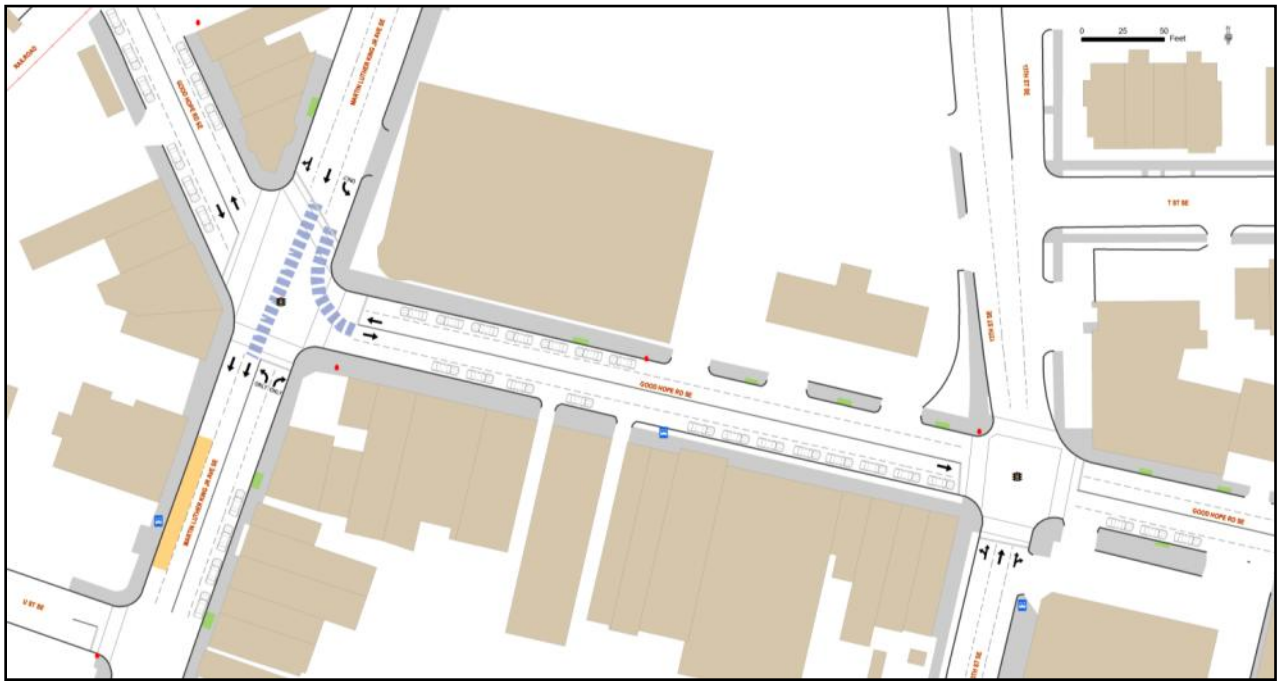
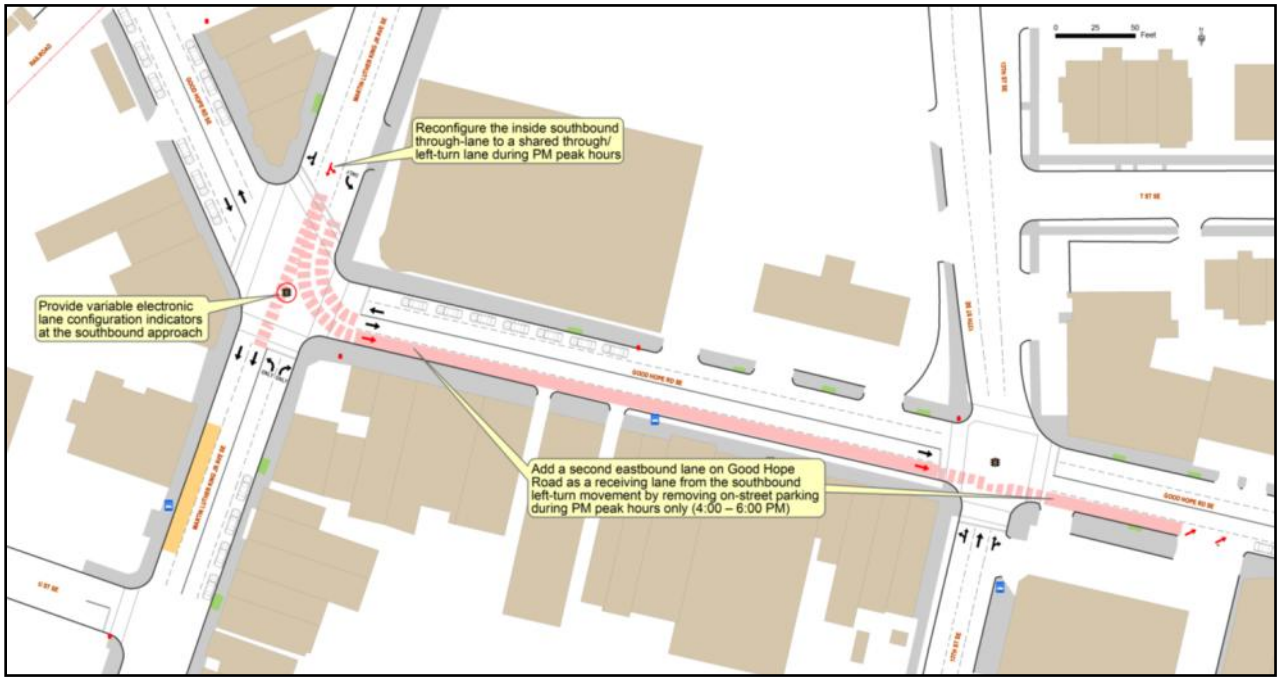


Figure 4-4 Recommended Improvements to MLK Jr. Avenue and Good Hope Road SE

Existing Configuration:



Recommended Improvements:



4.7.4 Parking Polices and Enforcement

Illegally parked vehicles—whether in curb lanes while no-parking restrictions are in effect, double parked vehicles, or vehicles parked in bus stops—can cause significant delays in bus service as well as prevent buses from reaching the curb to make stops, further inconveniencing disabled riders. Better enforcement of parking restrictions along the 90s Line would help eliminate the possibilities of such delays especially along 18th Street NW, U Street, and Barracks Row (8th Street SE). Restrictions on delivery vehicles would be especially helpful in those three areas. In addition, the dedicated supervisors to be added to the 90s Line would be expected to be in frequent and direct communication with District Department of Public Works parking enforcement staff. An extension of peak period parking restrictions is another policy that should be pursued. It is expected that, through the expansion and better enforcement of parking restrictions, 90s Line travel times could be decreased, dwell times reduced, and schedule adherence and bus bunching improved throughout the corridor.

5.0 Integration with Other Plans and Projects

The implementation of the U Street-Garfield (90s) Line recommendations would need to be coordinated with other transportation infrastructure projects in the planning stages, as well as with the District land use plans.

5.1 Integration with Transportation Projects

Several planned transportation infrastructure projects have the potential to affect 90s Line bus services in the future. These projects, and how they can impact the 90s Line recommendations, are described as follows.

5.1.1 Anacostia Gateway Transportation Study

Prepared for the District Department of Transportation (DDOT) in September 2004, the purpose of this study is to create an inviting public realm in Anacostia by supporting diverse use of activities, enhancing the streetscape, balancing vehicular and non-vehicular movements, managing current and projected parking needs, and improving the use of transit services and amenities. A key objective of the study is to "explicitly encourage the use of transit". Transit improvements recommended in the study include the upgrading of Metrobus amenities such as waiting areas, routes posted, maps of routes posted, schedule posting, shelters, trash receptacles, and benches.

Although completed for some time, the study calls for changes to turning movements, streetscape enhancements, and parking availability. All of these improvements, if implemented, are consistent with the results of the U Street-Garfield (90s) Line Study and could further enhance the performance of the 90s Line.

5.1.2 11th Street Bridges Reconstruction

DDOT is currently reconstructing and reconfiguring the interchange of the Southeast/Southwest Freeway and the Anacostia Freeway over the Anacostia River in Southeast DC – a distance of approximately one mile. The key design features of the project are:

- New ramps east of the Anacostia River would connect both directions of the Anacostia Freeway with cross-river freeway bridges. Currently, only the southern reach of the Anacostia Freeway is directly linked to the bridges.
- One bridge dedicated to freeway traffic and one bridge dedicated to local traffic.

The current freeway lane capacity of four lanes in each direction would remain unchanged. In addition, two lanes in each direction would be provided for local traffic and enhanced facilities for bicyclists and pedestrians adjacent to the local traffic lanes. The local lanes would be designed to accommodate a streetcar if that should result from a separate project.

Because all three existing routes of the 90s Line, and the proposed Metro Express Route 99, use or would use the 11th Street Bridge, the construction work is likely to create short-term impacts for the operation of the 90s Line.

5.1.3 DC Streetcar

In 2009, DDOT unveiled its plan to implement a city-wide modern streetcar system. The proposed network plan recommends streetcar service to operate along significant transportation corridors throughout the city. The corridors were chosen to reflect the project's goals:

- Improve access and mobility for District residents and businesses – Increase connections between neighborhoods and activity centers, and improve access to regional centers.
- Encourage community and economic development – Support the city's initiatives for community development and enhance development benefits.
- Enhance system performance – Increase the capacity of the transit network and improve transit efficiency and cost-effectiveness.
- Promote environmental quality – Limit adverse impacts and support environmental benefits.

Streetcars are recommended to run in mixed traffic along a number of corridors in the District, including 18th Street, NW, U Street, Florida Avenue, 8th Street NE/SE, M Street SE, the 11th Street Bridge, and Martin Luther King Jr. Avenue – in effect, almost the entire 90s Line corridor. Although streetcar line construction is many years away for most of the 90s Line alignment, service is planned first for Anacostia – which the 90s Line serves – and H Street NE, which intersects with the 90s Line at 8th Street NE. Therefore, it will be important for Metrobus staff to develop contingency plans for the 90s Line when streetcar track work begins.

5.1.4 Capitol Hill Transportation Study

The Capitol Hill Transportation Study was prepared for DDOT in September 2006. It documented a full range of transportation characteristics, identified issues and problems, and proposed short-, medium-, and long-term improvements for the Capitol Hill area.

The study's recommendations span all transportation modes—pedestrian and bicycle access, vehicle circulation, and truck and bus movements—and includes an evaluation of the impacts of proposed future development and projected regional growth on transportation infrastructure in the study area. Public transportation improvements recommended include constructing larger bus shelters or consolidating existing shelters at Pennsylvania Avenue and 8th Street SE.

Because the 90, 92, 93, and proposed 99 routes all travel on 8th Street NE/SE, and because 8th Street forms an important north-south corridor for Capitol Hill, the study should be referenced for potential recommendation conflicts and potential opportunities for coordination.

5.1.5 U Street/Shaw/Howard University Transportation and Parking Study

The study was completed for DDOT in 2006 to address multi-modal transportation and parking management plan for the Historic U Street/Shaw/Howard University study area that would promote safe and convenient multimodal mobility; provide a framework for addressing future transportation needs and a forum for community input on future transportation system elements; develop a creative approach to right-size parking for urban residential, commercial, and employment needs; and create an attractive streetscape environment.

A total of 16 bus routes serve the study area and the top four of them are ranked second, third, fourth, and fifth, constituting 34 percent of DC's total bus ridership. Transit improvements were recommended to improve appearance and accessibility at Metro stations, provide travel information and sufficient facilities for waiting passengers at bus stops, and provide priority treatments to transit vehicles along main corridors. Key recommendations include:

- Short term: Provide an additional bus shelter on southwest corner of Florida Avenue at Georgia Avenue.
- Short term: Relocate bus stops at northeast corner of U Street and 17th Street and in front of U Street Metro Station.

- Long term: Implement transit priority treatments such as signal priority and queue jumping along selected corridors and restrict on-street parking during peak periods.
- Long term: Promote and expand transit use during evening hours and special events.
- Long term: Provide real-time transit information at bus stops and metro stations.

These recommendations are consistent with the recommendations identified for the U Street-Garfield (90s) Line Study.

5.1.6 Adams Morgan/18th Street Transportation and Parking Study

The Adams Morgan/18th Street Transportation and Parking Study, also prepared for DDOT in 2006, examined existing and future transportation conditions in the study area to determine short-term and long-term transportation management and streetscape improvements. Recommendations included reducing traffic congestion; improving traffic and pedestrian safety; examining potential transportation impacts from planned development; improving connections between residents, employees, shoppers, and restaurant patrons and transit; and protecting surrounding residential streets from traffic impacts. Although the study noted that WMATA provides excellent bus service along 18th Street and Columbia Road, and these services are well used, underused transit on weekend evenings was identified as a key issue in the study. Recommendations to resolve this included:

- Improved signage at Metrorail stations for connections to Adams Morgan-bound buses.
- Bus headers on routes 42, H1, 90, 92, 93, 96, 98, and L2 indicating “via Adams Morgan.”
- Diversion of Route 90 to the Woodley Park Metro station.
- Extension of Routes 90, 92, and 93 from Ellington Bridge to Woodley Park Metro.

The 90s Line Study recommendations do not include using Woodley Park Metro as a terminal for any of the 90s Line routes or extending Routes 90, 92, or 93 to Woodley Park Metro Station due to difficulty in providing adequate bus layover facilities and opposition from neighborhoods and businesses in this area.

5.1.7 DC Circulator Study

Since DDOT began the new Circulator bus service in 2005, the system has expanded from three to six routes and grown in ridership. Through the DC Circulator Study, which is still ongoing, DDOT and its partners are exploring further growth over the next 5 to 10 years by identifying priority corridors for service improvements and expansion, and recommendations for new routes in the next 3 years. To support the development of the plan, the study is:

- Evaluating the existing Circulator system through rider surveys and operational analyses;
- Analyzing current and forecasted demographic, economic, and land use data and plans;
- Establishing a community advisory panel to provide input on the goals of the system and future priorities;
- Conducting focus groups with riders and non-riders and interviewing key stakeholders;
- Developing long-term priority corridors and short-term service recommendations; and
- Holding public meetings to report findings to the public.

The expansion of the DC Circulator system is of particular relevance to the 90s Line study, as proposed corridors for new service include portions of U Street NW, Florida Avenue, 8th Street NE, and the 11th Street Bridge to Anacostia.

5.2 Integration with Land Use Projects

5.2.1 Anacostia Transit Area Strategic Investment Plan

Over $150 million in public investment and several million more dollars in private investment has been committed for projects in Anacostia and neighboring communities. The Office of Planning, in cooperation with local residents, property owners, and other stakeholders completed the Anacostia Transit Area Strategic Investment Plan to guide this investment in ways that revitalize Anacostia and address the needs and vision of local residents and businesses.

The plan builds from the transit resources of the neighborhood—the existing Anacostia Metro station and extensive bus services, and the planned streetcar corridor. It provides a 10-year framework to guide community, private sector, and public agency actions and investments to revitalize the Anacostia Metro station area. The primary goals of this effort are to:

- Capture the value of the transit system to spur housing, retail, and other development opportunities in the neighborhood;
- Support and encourage productive use of underutilized sites within an easy walking distance of transit; and
- Improve neighborhood quality of life by providing local quality retail, diverse housing options, employment opportunities, neighborhood safety, improved transportation, and enhanced public facilities.

A restructured 90s Line, and especially the addition of the Metro Express 99 Route, would be in keeping with the goals of Anacostia's strategic investments.

5.2.2 Barry Farm/Park Chester/Wade Road Redevelopment Plan

The DC Office of Planning, in collaboration with residents of the Barry Farm, Park Chester, and Wade Road communities, initiated a process to plan and implement the revitalization of the area's low income properties and the surrounding neighborhood. The redevelopment plan seeks to improve the community's public facilities, access to commercial and retail opportunities, urban design, parks and open space, and transportation system. Easy access to bus, streetcar, and Metrorail transit service will be an important element of the new transit-oriented development planned in the area. A potential new WMATA headquarters building is also planned as part of the joint development project near Anacostia Metrorail Station. As the Barry Farm/Park Chester/Wade Road community is located in Ward 8's historic Anacostia area, improvements to the 90s Line would complement the neighborhood's redevelopment.

5.2.3 DUKE: Framework for a Cultural Destination for Greater Shaw/U Street

The DUKE Plan of 2004 concluded an extensive community planning process which outlined specific development and used targets between the Shaw-Howard University and U Street/African-American Civil War Memorial/Cardozo Metro stations. The study provided a small area master plan for the implementation of system improvements. The project has now been transferred to DDOT's Infrastructure Project Management Administration (IPMA) for implementation. In the first phase, IPMA will rehabilitate 7th Street from N Street to Florida Avenue, T Street from 7th Street to Florida Avenue, and Wiltburger Street from T Street to S Street NW, to include a new streetscape. An improved 90s Line would provide enhanced transit service to and from this area.

6.0 Implementation Strategy

This section presents a phased implementation of the recommended improvements described in Section 4.0 of this document.

6.1 Phased Implementation

Phase One: 2011-2012

1. Implement operational improvements:
    a. Increased enforcement of parking restrictions
    b. Route-specific training for bus drivers
    c. Improved safety and security
    d. Recalibrate running times on underlying local 90s Line service
    e. Add dedicated supervisory staff for 90s Line service

2. Develop plans for operations enhancements along 8th Street NE/SE:
    a. Consolidate bus stops/relocate some bus stops to far side of intersection as shown in Appendix A
    b. Convert six all-way stop sign intersections into two-way stop sign intersections (this would require additional public involvement)

3. Implement Metro Express Route 99 limited-stop service between the Anacostia and Dupont Circle Metro Stations:
    a. Operate bi-directionally every 15 minutes during the two 3-hour weekday peak periods via 8th Street NE/SE
    b. Some reduction in Metrobus Route 90 peak period service to balance headways with the addition of new limited stop service.

4. Implement recommended customer information improvements:
    a. Updated schedules and maps; including schedule information on buses
    b. NextBus displays
    c. Branding of new services

5. Implement improved bus stops and facilities program:
    a. Possibly consolidate/relocate local service bus stops
    b. Replace/repair missing or damaged stop elements
    c. Continue D.C. shelter replacement program

6. Implement safety and security enhancements based on coordination with Metro Transit Police and other law enforcement agencies.

7. DDOT initiates feasibility and operational studies for:
    a. Future dedicated transit lanes along portions of U Street and Florida Avenue NE
    b. Traffic signal priority along portions of U Street, Florida Avenue NW/NE and at 13 intersections along 8th Street NE/SE
    c. Improvements at the intersection of Martin Luther King, Jr. Avenue SE and Good Hope Road SE.

Phase Two: 2012-2013

1. Implement operational and/or physical enhancements along 8th Street NE/SE

2. Operate Metro Express Route 99 bi-directionally every 10 minutes during the two 3-hour weekday peak periods via 8th Street NE/SE
    a. Some additional reduction in Metrobus Route 90 peak period service

Future Service Phases

1. Add service to Metro Express Route 99, as follows:
    a. Add weekday midday service
    b. Add weekday evening service
    c. Add weekend service

Future Infrastructure Phases

1. Implement potential traffic-related improvements, after additional analysis:
    a. Dedicated transit lanes along portions of U Street NW and Florida Avenue NE
    b. Traffic signal priority along portions of U Street NW, Florida Avenue NW/NE and at 13 intersections along 8th Street NE/SE
    c. Additional intersection improvements along 8th Street NE
    d. Improvements at intersection of Martin Luther King, Jr. Avenue SE and Good Hope Road SE

7.0 Funding Requirements and Ridership Revenue

7.1 Operational Funding Requirements

Table 7-1 provides a summary of operating costs for current 90s Line service, with a schedule recalibration, and with the addition of Metro Express Route 99. These are improvements that would take place in Phase 1 of implementation. Phase 2, after 2012, accounts for increased service on Route 99.

Table 7-1 Estimated Operating Costs

Phase One	Route 90	Route 92	Route 93	Route 99	Service Total	Staff	Grand Total
Current	$4,231,233	$5,774,393	$478,704	$0.00	**$10,484,330**	$0.00	**$10,484,330**
Recalibrated	$4,688,814	$6,442,980	$520,810	$0.00	**$11,652,604**	$160,000	**$11,812,604**
Phase 1	$4,371,075	$6,442,990	$520,810	$1,215,320	**$12,550,195**	$160,000	**$12,710,195**
Phase 2	$4,189,573	$6,442,980	$520,810	$1,822,979	**$12,976,342**	$160,000	**$13,136,342**

Operating costs for the 90s Line with the recommended improvements for Phase 1 would be approximately $12.7 million per year, which is about $2.2 million more per year than the existing services. Operating costs for the 90s Line with the recommended improvements for Phase 2 would be approximately $13.1 million per year, or about $2.7 million more per year than the existing services. All costs are in Year 2010 dollars.

7.2 Ridership and Revenue Estimates

Table 7-2 estimates the ridership of and revenue generated by the 90s Line after Phase 1 and Phase 2 of the proposed improvements have been implemented.

Table 7-2 Estimated Ridership and Revenue for Improvements

	Current	Phase 1	Phase 2
Total Annual Ridership	4.04 m	4.12 m	4.17 m
Local Annual Ridership (90/92/93)	4.04 m	3.67 m	3.44 m
Metro Express 99 Annual Ridership	n/a	451,000	734,000
Total Weekday Ridership	13,400	13,700	14,000
Local Weekday Ridership (90/92/93)	13,400	11,900	11,100
Metro Express 99 Weekday Ridership	n/a	1,800	2,900
Annual Cost	$10.5 m	$12.7 m	$13.1 m
Annual Revenue	$4.2 m	$4.28 m	$4.34 m
Farebox Recovery	40%	34%	33%
Subsidy Required	$6.3 m	$8.42 m	$8.76 m

After Phase 2 of the proposed improvements have been implemented, the cost of operating the 90s Line would increase from $10.5 million to $13.1 million, and require an additional subsidy of about $2.5 million per year. All costs are in Year 2010 dollars.

7.3 Capital Cost Estimates

One-time capital cost requirements for Phase 1 and 2 improvements have also been estimated (in Year 2010 dollars) for the recommended system (not including the costs of the physical street improvements) as shown in **Table 7-3**. As shown in the table, capital costs are estimated to be about $9.27 million. These capital costs do not include Phase 2 improvements such as future dedicated transit lanes, signal priority, and intersection improvements. Estimates for these will be based on feasibility studies to be conducted in Phase 1.

Table 7-3 Estimated Capital Costs for Improvements*

	Units	Unit Cost	Capital Cost
Vehicles for Route 99 Service – Phase 1	11	$572,000	$6,292,000
Vehicles for Route 99 Service – Phase 2	4	$572,000	$2,288,000
Information cases	95	$207	$19,670
Schedules	203	$3.25	$660
System maps for shelters	94	$22	$2,170
Next bus display screens for limited-stop shelters	34	$5,500	$187,000
Supervisor laptops	2	$3,500	$7,000
Feasibility studies for street improvements	1	200,000	$200,000
Marketing campaign and materials	1	$275,000	$275,000
Total for Recommended System			**$9,272,000**

** Estimated in Year 2010 Dollars – Does not include future phase improvements such as signal priority, dedicated transit lanes, and intersection improvements. Estimates for these will be based on feasibility studies to be conducted in Phase 1.*

8.0 Contacts and Information Sources

Table 8-1 is a list of staff that has participated in the U Street-Garfield (90s) Line Study. The staff members below will serve as contacts and sources of information for the implementation of recommended improvements.

Table 8-1: Contacts and Information Sources

Name	Phone	E-mail
Office of DC Councilmember Jim Graham		
Jonathon Kass	202-724-8152	jkass@dccouncil.us
District Department of Transportation		
Allan Fye	202-671-2407	allan.fye@dc.gov
Eric Madison	202-673-1747	eric.madison@dc.gov
Jamie Henson	202-671-1324	jamie.henson@dc.gov
WMATA Office of Bus Planning		
Douglas Stallworth	202-962-2761	dstallworth@wmata.com
David Erion	202-962-1266	derion@wmata.com
Gloria Harris	202-962-2487	gharris@wmata.com
Julie Hershorn	202-962-1113	jhershorn@wmata.com
James Hamre	202-962-2870	jhamre@wmata.com
Dave Brlansky	202-962-5608	dbrlansky@wmata.com
Krys Ochia	202-962-2378	kochia@wmata.com
Sam Stepney	202-997-4273	sstepney@wmata.com
WMATA Government Relations		
Art Lawson	202-962-1050	alawson@wmata.com
WMATA Quality Assurance		
Charles Briscoe	202-962-5608	cibriscoe@wmata.com
WMATA Office of the Board Secretary		
John Pasek	202-962-2891	jpasek@wmata.com
WMATA Office of Civil Rights		
Corinne Remy	202-962-6331	cremy@wmata.com
Deborah Coram	202-962-2328	dcoram@wmata.com
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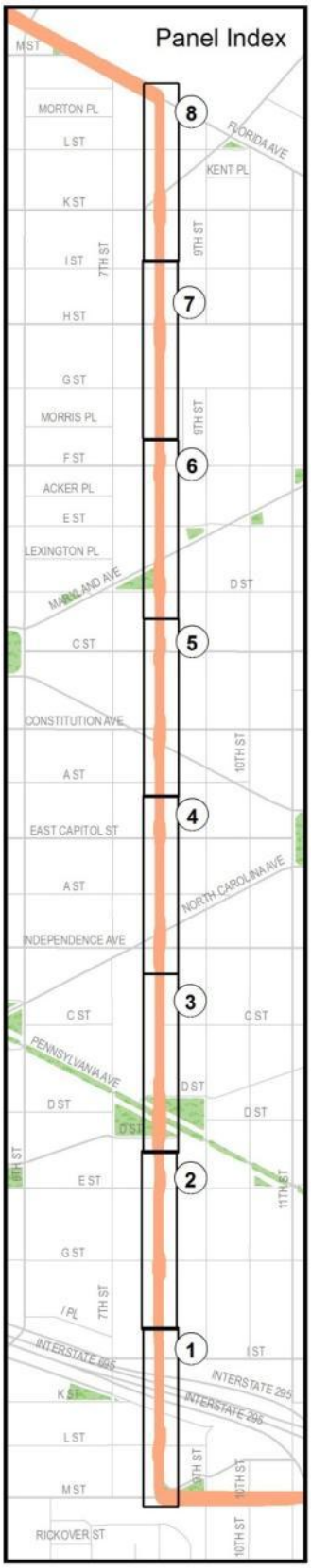
Stan Williams	202-269-8980	swilliams1@wmata.com
Stephen Edwards	202-962-5607	sdedwards@wmata.com
Dana Baker	202-635-6769	dbaker@wmata.com
Metro Transit Police		
Tom Boyer	202-635-6618	twboyer@wmata.com
Consultants		
Chris Bell, AECOM	410-637-1716	chris.bell@aecom.com
Mark Niles, AECOM	703-340-3061	mark.niles@aecom.com



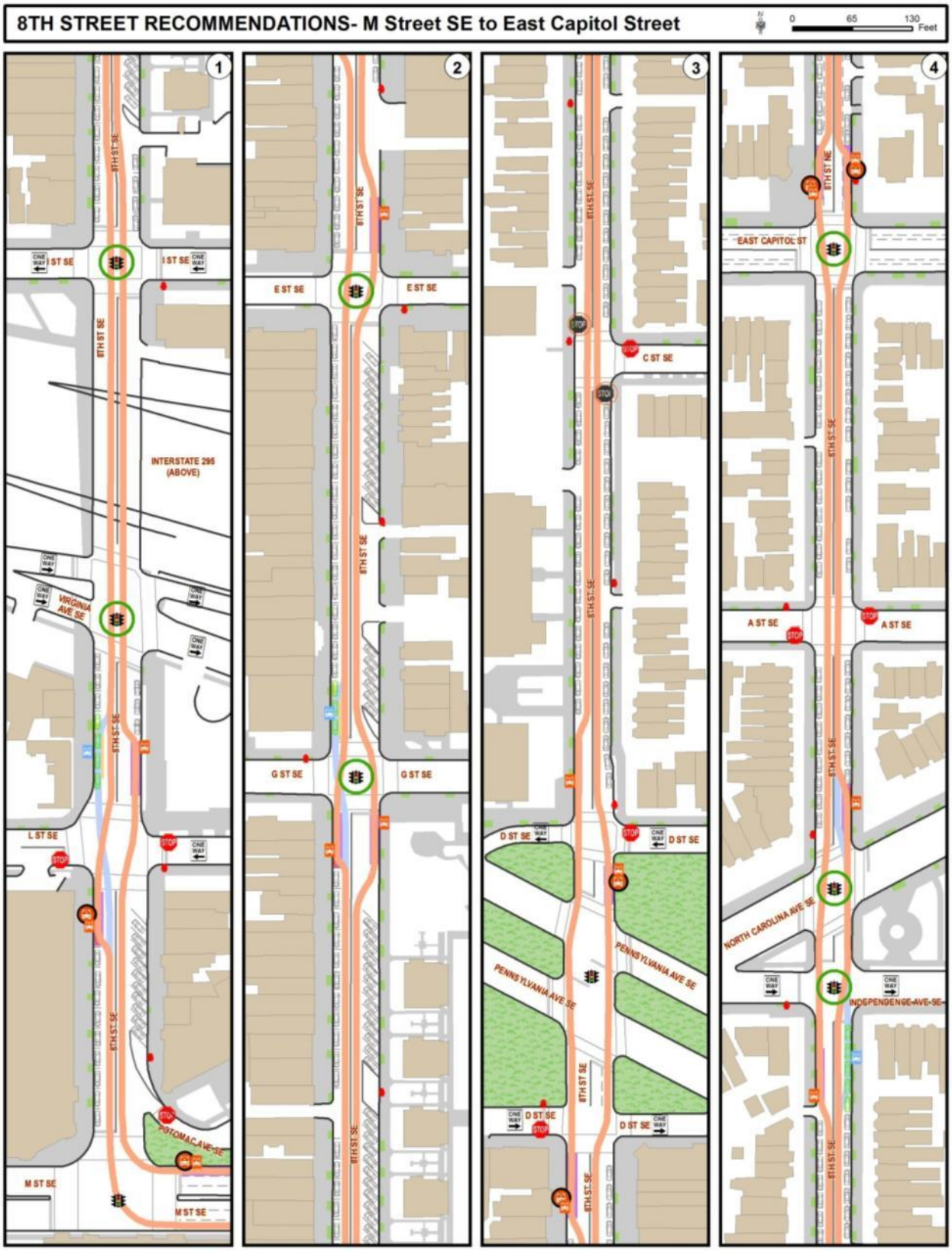
Appendix A

90-92-93 Metrobus
U Street-Garfield Line Study

8TH STREET - RECOMMENDATIONS

Legend (for following pages)

- Recommended Limited Stop Location
- Recommended Bus Stop Location
- Existing Bus Stop Location
- Stop Sign Controlled
- Recommeded Stop Sign Elimination
- Transit Signal Priority
- Signalized Intersection
- Existing Bus Route
- Recommended Bus Route
- Recommended Bus Pad Location
- Existing Bus Pad Location
- On-Street Parking (No Change)
- On-Street Parking (Removed)
- On-Street Parking (Proposed)
- Fire Hydrant
- Park
- Planter
- Sidewalk
- Building
- 8 Panel Index


8TH STREET RECOMMENDATIONS- M Street SE to East Capitol Street
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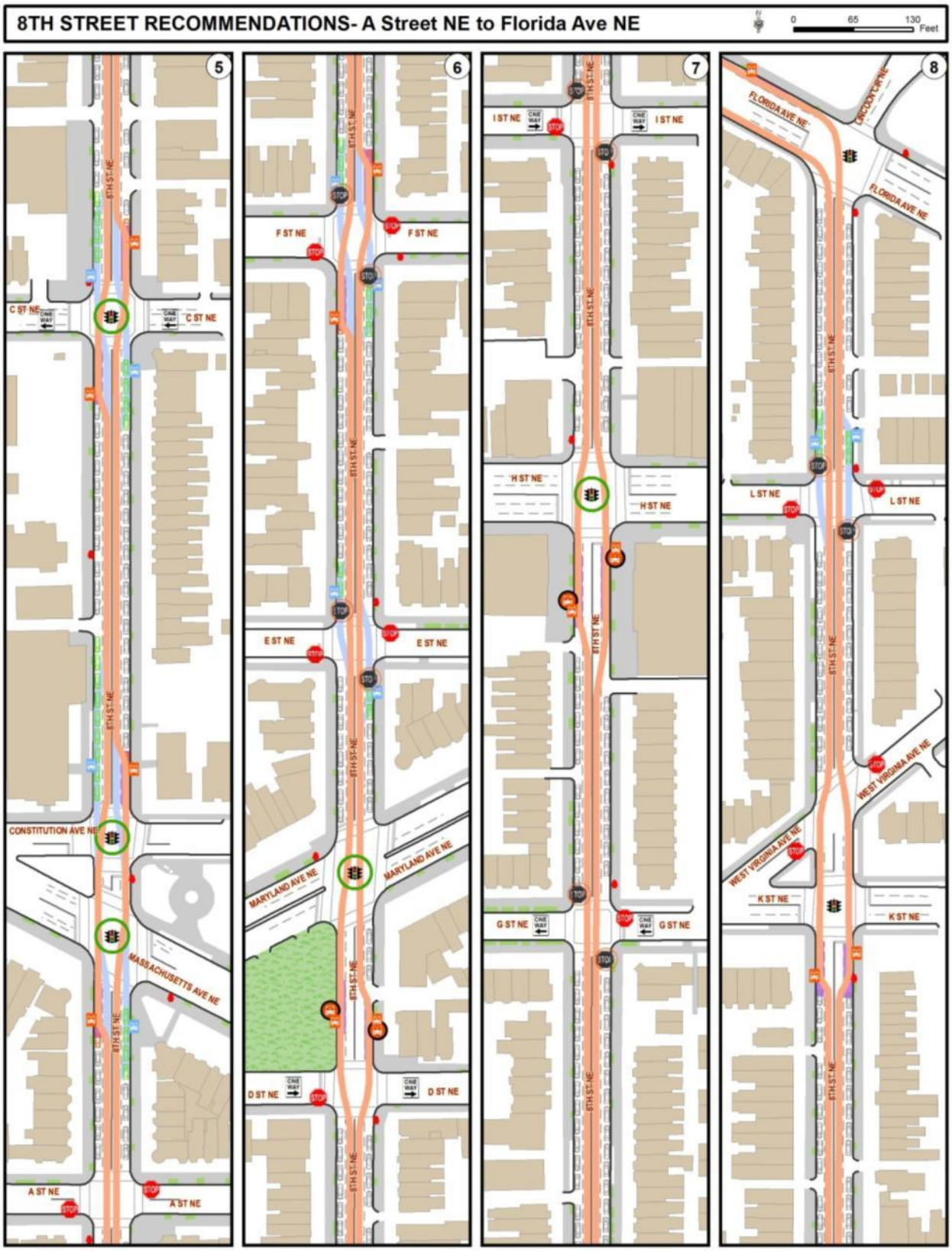
Feet
1
2
3
4
8TH ST SE
I ST SE
INTERSTATE 295
(ABOVE)
VIRGINIA
AVE SE
L ST SE
POTOMAC AVE SE
M ST SE
E ST SE
G ST SE
C ST SE
D ST SE
PENNSYLVANIA AVE SE
8TH ST NE
EAST CAPITOL ST
A ST SE
NORTH CAROLINA AVE SE
INDEPENDENCE AVE SE


8TH STREET RECOMMENDATIONS- A Street NE to Florida Ave NE
0
65
130
Feet
5
6
7
8
8TH ST NE
C ST NE
CONSTITUTION AVE NE
MASSACHUSETTS AVE NE
A ST NE
F ST NE
E ST NE
MARYLAND AVE NE
D ST NE
I ST NE
H ST NE
G ST NE
FLORIDA AVE NE
L ST NE
WEST VIRGINIA AVE NE
K ST NE